bio-protocol Preprint

Not Peer Reviewed
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FUCCI live-cell imaging

Andrew Burgess

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An abbreviated version of this protocol was published in eLIFE in Jun 2020

Analysis of pulsed cisplatin signalling dynamics identifies effectors of resistance in lung adenocarcinoma

DOI: 10.7554/eLife.53367

Detailed protocol

Thank you for the interest in our work. We recently wrote a detailed methods paper on how to do the live cell image analysis. This method can be easily extended to include any fluorescent biomarkers that you might have, such as FUCCI. Simply add in columns in the excel sheet to score when cells change from red to yellow or green (see attached for example).
You can find the open access methods article here:
https://www.sciencedirect.com/science/article/pii/S2215016119302791?via%3Dihub
or here https://pubmed.ncbi.nlm.nih.gov/31720237/

We also have a follow up paper which is currently available as a pre-print where you can find additional examples of this analysis.
https://www.biorxiv.org/content/10.1101/2020.11.26.400499v2

The method is time consuming but the quality and quantity of data that it produces is huge. Similarly, you can often find many subtle phenotypes that would be missed by automated analysis.

Related files

FUCCI Movie Analysis Template.xlsx

How to cite:(Readers should cite both the Bio-protocol preprint and the original research article where this protocol was used)

1. Burgess, A. (2021). FUCCI live-cell imaging. Bio-protocol Preprint. bio-protocol.org/prep1064.
2. Hastings, J. F., Gonzalez Rajal, A., Latham, S. L., Han, J. Z., McCloy, R. A., O'Donnell, Y. E., Phimmachanh, M., Murphy, A. D., Nagrial, A., Daneshvar, D., Chin, V., Watkins, D. N., Burgess, A. and Croucher, D. R.(2020). Analysis of pulsed cisplatin signalling dynamics identifies effectors of resistance in lung adenocarcinoma. eLIFE. DOI: 10.7554/eLife.53367